

### Remarks

Claims 1-25 remain pending. Claim 1 and 15-25 are hereby amended. No new matter is being added.

### Double Patenting

Claims 1-5, 9-16, and 19-24 are provisionally rejected on the ground of statutory obviousness-type double patenting as being unpatentable over claims 1-5, 8-12, and 14 of copending application no. 10/690,727. In the event that this application is found allowable, applicants are willing to submit a terminal disclaimer to overcome this rejection.

### Claim Rejections--Quach

Claims 1, 4-8, 15, and 17-18 are rejected under 35 USC 102(e) as being anticipated by Quach. Applicants respectfully traverse this rejection with respect to the claims as now amended.

Amended claim 1 recites as follows.

1. A method of compiling a program to be executed on a target microprocessor with multiple execution units of a same type, the method comprising:
  - selecting, **by a program compiler**, one of the execution units for testing;
  - scheduling, **by the program compiler**, execution of **diagnostic code** on the selected execution unit; and
  - scheduling, **by the program compiler**, execution of **program code** on remaining execution units of the same type,wherein said execution of diagnostic code on the selected execution unit and said execution of program code on the remaining execution units are scheduled to be performed in parallel.

(Emphasis added.)

As seen above, claim 1 now clearly states that **each step is performed by a program compiler**. Moreover, claim 1 now recites that "said execution of **diagnostic code** on the selected execution unit and said execution of **program code** on the remaining execution units are scheduled to be performed in parallel." As such, claim 1 relates to the use of a program compiler to test execution units in a microprocessor by scheduling diagnostic code to run on a selected execution unit while the remaining execution units continue in parallel to execute program code. Applicant believes that this method is highly innovative.

Quach discloses a microprocessor (hardware) with a high-reliability mode. As stated on column 2, lines 39-41 of Quach, "When the processor is in a high reliability (HR) execution mode, the issue module provides **identical instructions** to the first and second execution modules." By providing identical instructions, the results may be compared for **fault checking**. If the results are different, then a fault is detected.

Hence, the HR mode of Quach provides **fault checking** of program execution to detect errors during execution of a program. In contrast, the claimed invention has a different purpose and provides **diagnostic testing** of a selected execution unit while the program is being run on the remaining units. For example, as described on page 9, lines 16-18 of the present application, "Each scheduled diagnostic operation may be selected from a predetermined test pattern. Such a test pattern should include diagnostic operations and associated known results. Preferably, the test pattern is chosen so as to provide an effective trial as to the proper functioning of various components of the functional unit being tested."

For at least the above-discussed reasons, applicants respectfully submit that claim 1 is now patentably distinguished over Quach. For at least the same reasons, applicants respectfully submit that dependent claims 4-8 are also now patentably distinguished over Quach.

For similar reasons as discussed above in relation to claim 1, amended claim 15 is now patentably distinguished over Quach. For at least the same reasons, applicants respectfully submit that dependent claims 17-18 are also now patentably distinguished over Quach.

**Claim Rejections--Quach in view of Raina**

Claims 9-14 and 19-24 are rejected under 35 USC 103 as being unpatentable over Quach in view of Raina. Applicants respectfully traverse this rejection with respect to the claims as now amended.

Claims 9-14 depend from claim 1. Hence, for at least the same reasons as discussed above in relation to claim 1, claims 9-14 are now also patentably distinguished over Quach in view of Raina.

Claims 19-24 depend from claim 15. As such, for at least the same reasons as discussed above in relation to claim 15, claims 19-24 are now also patentably distinguished over Quach in view of Raina.

**Claim Rejections--Quach in view of Murthi**

Claims 2, 3, 16 and 25 are rejected under 35 USC 103 as being unpatentable over Quach in view of Murthi. Applicants respectfully traverse this rejection with respect to the claims as now amended.

Claims 2 and 3 depend from claim 1. Hence, for at least the same reasons as discussed above in relation to claim 1, claims 2 and 3 are now also patentably distinguished over Quach in view of Murthi.

Claim 16 depends from claim 15. As such, for at least the same reasons as discussed above in relation to claim 15, claim 16 is now also patentably distinguished over Quach in view of Murthi.

For similar reasons as discussed above in relation to claim 1, amended claim 25 is now patentably distinguished over Quach in view of Murthi.

**Conclusion**

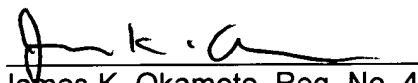
For the above-discussed reasons, applicants respectfully submit that claims 1-25 are now patentably distinguished over the cited art. Favorable action is respectfully requested.

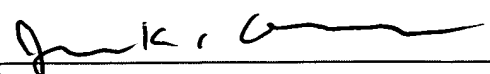
The Examiner is also invited to call the below-referenced attorney to discuss this case.

Respectfully Submitted,

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